1. What are the three stages of the ARM Pipeline?

2. How is a branch instruction handled by the pipeline?

3. The ARM is a load and store architecture. What does this mean?

4. What is the difference between an ARM instruction, a THUMB instruction, and a THUMB2 instruction?

5. What is the purpose of the phase locked loop on the ARM processor?

6. What are the general characteristics of RISC processors?

7. On reset how are the GPIO pins defined on the ARM? Why?

8. For the Keil ARM environment what is the significance of the Startup file and the System c-code which can be appended to each C program?

9. ARM machine Thumb code has the format shown in the figure below. The instructions are all the same length and have a uniform format. Why?
10. How is the Thumb, and Thumb2 register set different from the ARM register set? Why is it necessary to have multiple register sets.

11. When combining an assembly module with a C module how are parameters passed?

12. In the Thumb2 assembly code some instructions can have an s appended to the end of them to change their function. For example we can write either add r1, r2 or adds r1, r2. What does the s do?

13. The ARM Cortex M4 processor uses memory mapped I/O. What does this mean?

14. In the ARM Cortex M4 register set, registers 13, 14, and 15 are special. What is special about them?

15. An ARM Cortex M4 assembly language program might end with the two instructions below. What do they do?
   pop {r0-r5};
   bx lr;